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Some data in regard to this point are presented. While this is a preliminary paper, the results obtained and the statements as to methods of attack on a problem of this kind are suggestive to workers in this field.—S. V. EATON.

Response of apple trees to nitrogen fertilizers.—Nitrogenous fertilizers have been found by many investigators to cause increased vegetative growth of fruit trees and increased yields of fruit, but the experiments establishing these facts have been largely empirical. A bulletin by HOOKER¹⁵ records the results of experiments planned to get at the chemical changes in the tree resulting from nitrogenous fertilizers. He finds that the spring application of nitrogenous fertilizers causes increased setting of apples, accompanied by an increased nitrogen content of the spurs. In the case of non-bearing trees, increased vegetative growth is caused. Different kinds of quickly available fertilizers had much the same effect. At the time of fruit bud differentiation, the spurs of the spring fertilized trees showed less starch than the spurs of the check trees, so that the spring application of nitrogenous fertilizers would not be expected to favor this process. The accumulation of nitrogen in the spurs just before growth starts in the spring is the greater the later the nitrogenous fertilizers have been applied the preceding season. It is a pleasure to see the horticulturists thus attacking the fundamental problems of their subject.—S. V. EATON.

Vegetation of Illinois.—The recent publication of the 14th annual volume of the Transactions of the State Academy of Science¹⁶ shows about one-third of the volume devoted to reports of botanical and plant ecological studies. The State Forester, R. B. MILLER, discusses some of the undeveloped forest resource, of the southern portion of the state, and in collaboration with GEO. D. FULLER examines in some detail the conditions of tree growth and the forest types existing in a portion of Alexander County. W. G. WATERMAN makes a preliminary report on the bogs of the northern portion of the state, while W. B. McDOUGALL contributes an interesting key to some forest tree roots. A more extensive investigation is reported by H. DeFOREST, who has studied the woodlands along the Rock River in the northwestern portion of the state. MARY E. RENICH contributes a study of growth as related to size of seed, and A. B. REAGAN has some interesting notes on the plants of the Bois Fort Indian Reservation, Minnesota.—GEO. D. FULLER.

Mosaic disease of tobacco.—PALM¹⁷ has investigated the mosaic disease of tobacco, and has reached the conclusion that it is due to a causal organism.

¹⁵ HOOKER, H. D., Certain responses of apple trees to nitrogen applications of different kinds and at different seasons. *Mo. Agric. Exp. Sta. Res. Bull.* 50. 1-18. 1922.

¹⁶ Transactions of the Illinois State Academy of Science. Fourteenth annual meeting. 1921. 14: pp. 326. 1922.

¹⁷ PALM, B. T., Is the mosaic disease of tobacco a chlamydozoonose? English translation by P. G. WILSON. *Bull. Deliproefstation Medan-Sumatra.* no. 15. pp. 10. 1922.